

WHAT IS CLAIMED IS:

5 1. An image processing apparatus comprising:
a landmark amount input unit to input a landmark amount of an
object image included in an input image,
an image pickup condition input unit to input an image pickup
condition of shooting said input image, and
an image space formation unit to form an image space by applying a
statistical method on a plurality of said landmark amounts input through
said landmark amount input unit and a plurality of image pickup conditions
input through said image pickup condition input unit with respect to a
10 plurality of object images.

2. The image processing apparatus according to claim 1, wherein
said plurality of landmark amounts input through said landmark amount
input unit include a plurality of coordinate values to identify a shape of said
object image.

3. The image processing apparatus according to claim 1, wherein
said plurality of landmark amounts input through said landmark amount
input unit include a plurality of grey-level values of texture of said object
image.

4. The image processing apparatus according to claim 1, wherein
said image pickup condition input through said image pickup condition
input unit includes brightness of illumination during shooting.

5. The image processing apparatus according to claim 1, wherein
said image pickup condition input through said image pickup condition
input unit includes inclination of said object image included in said input
image in a depth direction.

6. An image processing apparatus comprising:

a storage unit to store an image space generated according to a landmark amount of an object image included in an image and an image pickup condition of shooting said image,

5 a parameter input unit to input a parameter at said image space, and

an image synthesis unit to synthesize an image according to the parameter input through said parameter input unit.

7. The image processing apparatus according to claim 6, wherein said parameter input unit includes a parameter optimization unit to automatically extract a parameter whose difference between an input image and a synthesized image obtained by moving the parameter in said image space becomes smallest.

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8. The image processing apparatus according to claim 6, wherein said parameter input unit includes a projection unit to project said landmark amount input through said landmark amount input unit and said image pickup condition input through said image pickup condition input unit onto said image space to obtain a parameter.

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9. An image processing apparatus comprising:

a first storage unit to store an image space generated according to a landmark amount of an object image included in an image and an image pickup condition of shooting said image,

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a parameter optimization unit to automatically extract a first parameter whose difference between a first object image included in said input image and a synthesized image obtained by moving a parameter in said image space becomes smallest,

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a second storage unit to store a plurality of second object images respectively in correspondence with a second parameter in said image space, and

a select unit to compare said first parameter with said second parameter to select a desired object image out of said plurality of second

object images.

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10. An image processing method comprising the steps of:
entering a landmark amount of an object image included in an input
image,

5 and
entering an image pickup condition of shooting said input image,

10 forming an image space by applying a statistical method on a
plurality of said landmark amounts input at said step of entering a
landmark amount and a plurality of said image pickup conditions input at
said step of entering an image pickup condition with respect to a plurality of
object images.

11. A recording medium recorded with an image processing
program for a computer to execute the steps of:

5 entering a landmark amount of an object image included in an input
image,

entering an image pickup condition of shooting said input image,
and

10 forming an image space by applying a statistical method on a
plurality of said landmark amounts input at said step of entering a
landmark amount and a plurality of said image pickup conditions input at
said step of entering an image pickup condition with respect to a plurality of
object images.